

### Remarks

The application originally contained Claims 1-5. No changes to the claims were made by the First Amendment. In this Second Amendment, Claims 1-2 have been canceled, Claims 3-5 remain as originally submitted, and Claims 6-22 have been added. Claims 3-22 are thus presented for further examination.

### Prosecution History

The application was originally filed with Claims 1-5. In the First Office Action dated 9/11/02, Claim 1 was rejected under 35 U.S.C. §103(a) as unpatentable over U. S. Patent 5,025,490 issued to Tamura in view of U. S. Patent 5,993,996 issued to Firsich (hereinafter respectively referred to as "*Tamura*" and "*Firsich*"). Claims 2-5 were rejected under 35 U.S.C. §103(a) as unpatentable over *Tamura* and *Firsich*, in view of U. S. Patent 4,442,165 issued to Gebhardt et al. (hereinafter referred to as "*Gebhardt*"). The Examiner also objected to an informal error in the specification. On 12/6/02, the applicants submitted a responsive First Amendment amending the specification and traversing the foregoing rejection of the claims.

In view of the applicants' traverse, the Examiner issued the present, non-final Second Office Action rejecting Claims 4 and 5 under 35 U.S.C. §112, second paragraph, as being indefinite for reciting a limitation having an insufficient antecedent basis; rejecting Claims 1 and 2 under 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 4,137,477 issued to Krol et al. (hereinafter referred to as "*Krol*"); and rejecting Claims 3-5 under 35 U.S.C. §103(a) as unpatentable over *Krol* in view of *Gebhardt*.

### Rejection of Claims 4 and 5 for Indefiniteness

Claims 4 and 5 each depend from independent Claim 3, and each recites "[t]he anode/cathode coating method of claim 3, wherein . . . ." The preamble of Claim 3 recites "[a] method of coating an anode/collector used in a vacuum tube, the method comprised of: . . . ." The Examiner contends that Claims 4 and 5 are indefinite because of insufficient antecedent basis in Claim 3

for the limitation "anode/cathode" set out in Claims 4 and 5. The applicants respectfully controvert this rejection.

"A claim is indefinite when it contains words or phrases whose meaning is unclear." MPEP §2173.05(e). If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. *Ex parte Porter*, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992).

The Examiner has taken the term "anode/cathode" out of its context as an adjective modifying the coating method of Claim 3. More particularly, Claims 4 and 5 each clearly refer to the anode/collector coating method positively recited in the independent Claim 3, from which each of them depends. When "anode/cathode" is read in its proper context as an adjective, there is no ambiguity, and the applicants submit that the scope of Claims 4 and 5 would be reasonably ascertainable by those skilled in the art. The applicants thus respectfully assert that the aforementioned rejection of Claims 4 and 5 for indefiniteness is ill-founded and request that it be reconsidered and withdrawn.

#### Requirements for *Prima Facie* Obviousness

The Commissioner of Patents and Trademarks, acting through examining officials, bears the burden of establishing that an applicant is not entitled to a patent. The obligation of the examiner to go forward and produce reasoning and evidence in support of obviousness is clearly defined at MPEP §2142:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

A general definition of *prima facie* unpatentability is provided at 37 CFR §1.56(b)(2)(ii):

A *prima facie* case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the

specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability. (emphasis added)

It follows that in the absence of such a *prima facie* showing of obviousness by the examiner (assuming there are no objections or other grounds for rejection), an applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443 (Fed. Cir. 1992).

Where references must be combined to produce the claimed invention, MPEP §2143.01 mandates that there be some teaching, suggestion, or motivation to combine them found either explicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The applicants respectfully assert that the rejections should be withdrawn because the Examiner has failed to carry his burden of providing compelling evidence of a teaching, suggestion or motivation to combine the references to produce the claimed invention.

#### Rejection of Claims 3-5

The Examiner has improperly cited *Gebhardt* as one of the references used to reject Claims 3-5 because it is not in an art that is analogous to the field of the applicants' invention, nor is it remotely related to the problems solved thereby.

In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

*Gebhardt* discloses low-density thermally insulating composites and a method of fabricating those composites. Col. 1, lines 8-10. It provides a material having improved resistance to ablation and crumbling, and one that is nonporous and impervious to gases, liquids, and high intensity infrared radiation. Col. 1, lines 25-39. The foregoing is categorically unrelated to reducing secondary electron production, plasma formation, and out-gassing, and controlling pressure inside a vacuum tube, as provided by the applicants' invention.

Moreover, the Examiner notes on page 4, lines 13-16, of the Second Office Action, that the "deposition of pyrocarbon by chemical vapor deposition as shown by *Gebhardt* et al. is a process well known in the art for providing a body of pyrolyzed carbon to increase the strength of the material." (*sic*) Strengthening the underlying pyrolyzed carbon is not related to improving the electrical properties of the anode/collector in a vacuum tube, as provided by the applicants' invention. In view of the foregoing, the applicants' respectfully submit that *Gebhardt* is an improper reference and should not be combined with *Krol* to support a rejection of Claims 3-5.

Furthermore, the Examiner has not shown a basis for combining *Krol* and *Gebhardt*. *Krol* teaches a method for manufacturing solid carbon electrodes for use in electron tubes. As noted above, *Gebhardt* discloses low-density composites and a method of fabricating those composites, to provide a strengthened, thermally insulating material having improved resistance to ablation and crumbling, as well as being nonporous and impervious to gases, liquids, and high intensity infrared radiation. The Examiner has not pointed to any motivation, incentive or suggestion of desirability in the prior art to combine the teachings of *Gebhardt* with those of *Krol*, to teach a method for manufacturing solid carbon electrodes having improved electrical properties in a vacuum tube.

As stated in MPEP §2143.01:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

In view of the foregoing, the applicants contend that it is improper to combine the teachings of *Gebhardt* with those of *Krol* and, therefore, that the rejection based on such a combination should be withdrawn.

#### New Claims 6-22

Claims 6-22 have been added. Claim 6 is an independent apparatus claim, and Claims 7-10 are apparatus claims that depend therefrom. Claim 11 is an independent method claim and Claims 12-22 are method claims that depend therefrom.

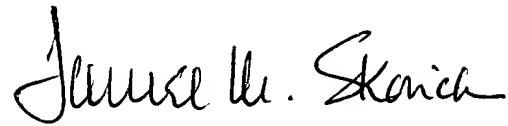
#### Summary

Claims 1-2 have been canceled. The applicants respectfully submit that the Examiner has not met his burden of establishing a *prima facie* case of obviousness of Claims 3-5, and petition the Examiner to withdraw his pending rejection. New Claims 6-22 have been added, and the applicants believe they are patentable over the prior art. Accordingly, the applicants earnestly solicit the favorable consideration of their application, and respectfully request that it be passed to issue in its present, amended condition, with Claims 3-22.

Should the Examiner find any remaining impediment to the prompt allowance of the aforementioned claims that might be resolved or overcome with the aid a telephone conference, he is cordially invited to call the undersigned at the telephone number set out below.

09/682,388  
Shiffler et al.

Respectfully submitted,

A handwritten signature in black ink, reading "James M. Skorich". The signature is written in a cursive style with a large, stylized initial "J".

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